

I claim:

1. An actuator unit comprising at least two actuator elements which when electrically activated each experience a change in length, which are connected to a control device by means of an interactive connection, and an actuator housing which encloses the actuator elements and which is connected to the actuator elements by means of a positive and/or friction fit, wherein a vectorial sum of the mass impulses of the at least two actuator elements is approximately zero at any given time.
2. The actuator unit according to claim 1, wherein a first and a second actuator element are each disposed essentially opposite each other with intersecting longitudinal axes.
3. The actuator unit according to claim 1, wherein a vectorial sum of the longitudinal movements of the at least two actuator elements is approximately zero at any given time.
4. The actuator unit according to claim 1, wherein a first and a second actuator element are each disposed opposite each other with coincident longitudinal axes.
5. The actuator unit according to claim 1, wherein a first and a second end face of the first and second actuator element respectively are supported in the actuator housing, and a third and fourth end face of the actuator elements respectively act upon a transmission medium.
6. The actuator unit according to claim 5, wherein the transmission medium is part of a transmission device and acts upon the control device.
7. The actuator unit according to claim 5, wherein the transmission medium is part of a hydraulic transmission device and acts upon the control device.

8. The actuator unit according to claim 6, wherein the transmission medium is part of a hydraulic transmission device and acts upon the control device.
9. The actuator unit according to claim 5, wherein the direction of the axial movements of the first and second actuator elements is oriented essentially normal to the direction of movement of the control device.
10. The actuator unit according to claim 1, wherein the first and the second end face of the first and second actuator element respectively is supported in the actuator housing and the third end face of the first actuator element acts directly or indirectly upon the control device.
11. The actuator unit according to claim 10, wherein the directions of the axial movements of the first and second actuator element as well as the direction of movement of the control device are oriented in each case axially parallel to one another.
12. The actuator unit according to claim 1, wherein each of the actuator elements is a piezoelectric actuator element.
13. The actuator unit according to claim 1, wherein each of the actuator elements is a magnetostrictive actuator element.
14. The actuator unit according to claim 1, wherein the actuator unit is an actuator of a fuel injection valve.
15. The actuator unit according to claim 1, wherein the actuator elements of the actuator unit can be controlled separately from each other and individually.